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CAN PONDEROSA PINE IN BRUSHFIELDS BE SPRAYED AFTER PLANTING?

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When brushfields are to be regenerated by planting, several options of site treatment are available. One of these is to plant without any site preparation and later spray the brush with suitable herbicides to eliminate the competition. To test this procedure, four 0.1-acre plots were laid out on a severe west exposure at Town Creek, Boise National Forest, in central Idaho in late July 1957. The area had been planted with 2+0 ponderosa pine in 1954 by the dug hole method.

One of the plots was chosen randomly as a check, and the other three were sprayed by hand nozzle and portable pump with 2,4,5-T in the proportion of 1 gallon to 200 gallons of water.[2/] The seasonal growth of both pine and brush was complete at the time although the Ceanothus had finished its growth first. The spraying was done in 95° F. weather and though particular care was taken not to spray the tender pine leaders and laterals, they probably received spray from drift.

The trees were staked for later identification and examined each year to record the mortality and growth since spraying. The results of these examinations are shown below.

If the lethal effects of spraying are considered to last no more than 2 years or so, only Plot 4 appears to have suffered any appreciable mortality from this cause; later mortality may be due to competition. There is little to choose in periodic growth between the plots except that Plot 4 produced least. Trees on the check plot average some 0.35 foot higher than trees on the treated plots.

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2/ Chemicals for these trials were supplied through the courtesy of The Dow Chemical Company.

1954 planting		1957	1958		1959		1960		Mortality 1957-1960	Growth increase, 1959-1960 seasons
Plot	Area	No. trees	No. trees	Av. ht.	No. trees	Av. ht.	No. trees	Av. ht.		
	Acres			Ft.		Ft.		Ft.	Percent	Percent
1	0.1	36	35	0.90	34	1.17	32	1.39	11.1	54.4
2	.1	53	51	.84	47	1.11	48	1.32	9.4	57.1
3 (check)	.1	53	53	1.14	53	1.45	53	1.71	0	50.0
4	.1	52	44	.97	44	1.07	36	1.34	30.7	38.1

Spraying herbicide from aircraft probably would result in more even dosage per acre than was obtained by hand spraying. This in turn might cause more leader dieback and might not reach the brush foliage as effectively as hand spraying. The results obtained by hand spraying in this test suggest that little is to be gained by applying herbicides after planting under the conditions outlined here. Site preparation suitable for planting could probably be achieved more satisfactorily by spraying prior to planting, and possibly burning, or by powered mechanical scarification.